



Arenaviridae (Viral Hemorrhagic Fever)

What is Arenaviridae?

The *Arenaviridae* are a family of viruses whose members are generally associated with rodent-transmitted diseases in humans. Viruses in this group can cause mild to severe illnesses. These illnesses include:

- Argentine hemorrhagic fever
- Bolivian hemorrhagic fever
- Brazilian hemorrhagic fever
- Chapare hemorrhagic fever
- Lassa fever
- Lujo hemorrhagic fever
- Lymphocytic choriomeningitis (LCM)
- Venezuelan hemorrhagic fever

Who is at risk for Arenaviridae?

Human infection occurs when an individual comes into contact with the excretions or materials contaminated with the excretions of an infected rodent, such as ingestion of contaminated food. Infection can also occur by direct contact of abraded or broken skin with rodent excrement or by inhalation of tiny particles soiled with rodent urine or saliva (aerosol transmission).

What are the symptoms of Arenaviridae?

General symptoms include fever, cough, myalgia, headache, and leukopenia, typically followed by complete recovery. In rare cases, symptoms start as stiff or sore neck, rash, and myocarditis. This disease is rarely fatal.

How soon do symptoms appear?

Depending on the illness, the incubation period can range from five to 21 days following exposure.

How is Arenaviridae spread?

Most of these illnesses are spread through contact with rodent, mainly mice, excretions. However, most of these viruses can be spread from person to person when people come into direct contact with blood or body fluids of infected individuals.

Person-to-person transmission of LCM has not been reported, with the exception of vertical transmission from infected mother to fetus, and rarely, through organ transplantation.

When and for how long is a person able to spread the disease?

As long as virus is present, a person can spread the disease. In some cases, virus is present in the urine of an infected case for three to nine weeks and in semen for up to three months.

How is a person diagnosed?

Several tests can be used to detect antibodies of the *Arenaviridae* viruses. These tests are typically done on blood or cerebral spinal fluid samples.

What is the treatment?

There is no specific treatment for most of these illnesses. Some respond to anti-viral therapies. Supportive therapy, including managing secondary bacterial infections, may also be provided.

Does past infection make a person immune?

Yes. Infection with *Arenaviridae* viruses provides immunity to that virus. However, the length of time that immunity is provided depends on the type of virus.

Should children or others be excluded from child care, school, work or other activities if they have *Arenaviridae*?

No. Children and adults may continue to attend work and school, unless they are too ill to participate in normal group activities.

What can be done to prevent the spread of *Arenaviridae*?

General precautions include:

- Avoid contact with blood and body fluids of infected individuals.
- Try to avoid mosquito and tick bites. A person can do this by using insect repellent containing DEET.
- Remove mosquito and tick breeding habitats from around your home.
- Prevent rodents from nesting in or near your home.
- Keep pet food covered and stored in rodent-proof containers. Do not leave excess pet food or water out overnight.
- Store garbage in containers with tight-fitting lids. Dispose of garbage on a frequent basis and pick up or eliminate clutter.

Additional Information:

Additional information is available by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resources:

1. Centers for Disease Control and Prevention, 2013: www.cdc.gov/vhf/virus-families/arenaviruses.html
2. Virginia Bioinformatics Institute, 2011: ci.vbi.vt.edu:13001/pathinfo/pathogens/
3. Control of Communicable Disease Manual, 19th Edition-2008, Heymann, David, MD ed.
4. American Academy of Pediatrics. In: Pickering LK, ed. Red Book: 2012 Report of the Committee on Infectious Diseases. 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2012:[137-141]

